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EXAMINER	
BRIER, JEFFERY A	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/353,887	EDWARDS, STEPHEN W.	
	Examiner	Art Unit	
	Jeffery A. Brier	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 February 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-22 and 24-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-13,15-22 and 24-38* is/are rejected.

7)☒ Claim(s) *14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

/Michael RAZAVI/

Supervisory Patent Examiner, Art Unit 2672DETAILED ACTION

1. In view of the Appeal Brief filed on 02/07/2008, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Michael RAZAVI/

Supervisory Patent Examiner, Art Unit 2628

Information Disclosure Statement

2. The information disclosure statement filed 2-17-2000 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. Specifically, all U.S Documents have been considered, but copies of the Foreign Patent Documents and other documents have apparently not been provided, and thus the information referred to therein have not been considered. A copy of this information disclosure statement was first sent to applicant with the office action mailed on 4/11/2001, however, the unconsidered references were not lined through. This copy of the 2-17/2000 information disclosure statement has the unconsidered references lined through.

Response to Amendment

3. The amendment filed on 10/04/2006 has been entered. The amendment filed on 04/05/2007 has not been entered since it is defective as noted in the 04/19/2007 Advisory Action. Thus, the claims filed on 10/04/2006 are the claims being examined in the Office Action.

Claim Objections

4. Claims 1, 4-8, 12, 20, 32, 34, and 35 filed on 10/04/2006 are objected to because of the following informalities:

claim 1 has two periods at the end, dependent claims 4-8 do not correct this issue;

claims 12 and 20 lacks a period at the end of each claim;

claim 32 at line 12 "an" should be "and"

claim 32 at line 5 "including" should be "including:"

claim 34 "comprises" should be "comprises:"

claim 35 "comprising" should be "comprising:"

Appropriate correction is required.

5. The claims are objected to because the lines are crowded too closely together, making reading difficult. Substitute claims with lines one and one-half or double spaced on good quality paper are required. See 37 CFR 1.52(b).

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 15-20 and 32-34 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Applicants specification at page 12 line 25 to page 13 line 18 describes the computer program product as a variety of products covering any medium including signals which were found to be non-statutory in In Re Nuijten. In re Nuijten, 84 USPQ2d 1495 (Fed. Cir. 2007) and In re Nuijten, 85 USPQ2d 1927 (Fed. Cir. 2008).

8. Claims 35-38 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims claim a data structure for storing data relating to a texture map but these claims do not claim memory having the data structure. Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760. In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994).

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 1 and 4-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 at line 18 “the consecutive data blocks” lacks antecedent basis in the claim. The association between the “the consecutive data blocks” at line 18 and the “sequence number” at line 17 is unclear. Dependent claims 4-8 do not clarify this issue. Claims 1 and 4-8 do not define which part of the claimed graphics accelerator performs the function of the two wherein clauses and does claim which occurs first the process claimed to be preformed by each texture processor or the process of the two wherein clauses.

Response to Arguments

11. Applicant correctly noted in the 02/07/2008 response in the sentence spanning pages 1 and 2 that “Claims 5, 11-13, 17-19, 22, 26, 29, 32, 37 and 38 were amended in the amendment filed with the Request for Continued Examination on 23 June 2003.”.

12. Applicant's arguments filed 02/07/2008 and 10/05/2007 have been fully considered but they are not persuasive to overcome the prior art rejections of claims 9-13, 15-19, and 21-37 set forth in the Final Rejection mailed on 01/05/2007.

13. The argument filed on 02/07/2008 concerning claims 9-13, 15-19, and 35-38 at pages 32 and 33 “*Lentz's* memory addresses are not texture packets, *Tanaka's* command packets are not texture packets, and *Saunder's* "target parameter" is not stored in texture memory. Thus, properly-equated elements are not in the prior art to make a combination.” are not persuasive because:

Lentz teaches texture packets as the texel values fetched from the texture memory 20, *s*ee col 2 line 1-2).

14. The arguments filed on 02/07/2008 concerning claims 14, 20, 26-28, and 32-34 at pages 33 and 34 as applied to rejected claims 26-28 and 32-34 “*Lentz's* memory address are not texture packets, *Tanaka's* command packets are not texture packets, *Saunder's* "target parameter" is not stored in texture memory, and *Chimoto* does not require consecutive storage in texture memory. Thus, properly-equated elements are not in the prior art to make a combination.” are not persuasive because:

Lentz teaches texture packets as the texel values fetched from the texture memory 20, *s*ee col 2 line 1-2); and

One dimensional textures of Chimoto teach consecutive storage since consecutive is a broad term.

15. The arguments filed on 02/07/2008 concerning claims 29-31 at page 34 are not persuasive because "*Lentz's* memory address are not texture packets, *Tanaka's* command packets are not texture packets, *Young's* texture memory does not store texture packets, *Saunder's* "target parameter" is not stored in texture memory, and *Chimoto* does not require consecutive storage in texture memory. Thus, properly-equated elements are not in the prior art to make a combination." because:

Lentz teaches texture packets as the texel values fetched from the texture memory 20, see col 2 line 1-2) and

One dimensional textures of Chimoto teach consecutive storage since consecutive is a broad term.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

17. Claims 21-22 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lentz (U.S. Pat. No. 5,886,705) in view of Young et al (U.S. Pat. No. 5,831,637) and Tanaka et al (U.S. Pat. No. 5,793,371).

Claim 21:

21. (Original)

Lentz teaches a graphics accelerator for processing a graphical image, the graphics accelerator comprising:

a single texture buffer (21) for storing texture maps (i.e. "texel") and data relating to the texture maps stored in the texture buffer (21) (See Abstract line 1-2, col 2 line 18-20, col 3 line 24-30, col 8 line 15-31); and

a plurality of texture processors (13 & 24) that performs texturing operations on the graphical image, the plurality of the texture processors retrieving texture packets from the single texture buffer (See Abstract, Fig 1, Fig 2, col 1 line 5-13),

each texture processor (13 & 24) including a fetching engine ["pixel-value calculation";15] (See col 2 line 1-2) that retrieves texture packets, each texture packet being stored in the texture buffer (21) and being associated with a texture map that is different than the texture maps associated with any other texture packet in the texture buffer, each texture packet including data relating to the dimensional type of its associated texture map (See Fig 1, Fig 7, col 1 line 66-col 2 line 4, col 2 line 43-60, col 3 line 10-14, col 3 line 22-36, col 4 line 14-17, col 4 line 42-54, col 5 line 7-11, col 5 line 22-23, col 8 line 46+).

Lentz does not specifically disclose "the texture buffer", as claimed by Applicant. However, a texture buffer is an obvious embodiment of the notoriously well-known texture memory. According to the computer dictionary ["Microsoft Press Computer Dictionary", Third Edition], buffer is defined as *"a region of memory reserved for use as an intermediate repository in which data is temporarily held while waiting to be transferred between*

two locations, as between an application's data area and an input/output device". From its definition of "buffer", it is reasonable to interpret "texture memory" of Lentz into "texture buffer" in recited claim, as both are functionally equivalent. [i.e. storing texture data]

Also, Lentz does not explicitly discloses that performing texture operations by multiple texture processors, wherein the plurality of processors retrieve texture packets from the single texture buffer. However, such limitations are shown in the teaching of Young et al. [i.e. 'employing multiple texture processors (251-254) and doing texture mapping with multiple texture processor (251-254), which connected with texture memory (251a-254a)] (See Fig 1, Fig 2 of Young et al) The motivation would have been to minimize the time required for texture processing. Further, as to the computer dictionary ["Microsoft Press Computer Dictionary", Third Edition], "Multiprocessing/Multiprocessor" is defined as "*mode of operation in which two or more connected and roughly equal processing units each carry out one or more processes. In multiprocessing, each processing unit works on a different set of instructions or on different parts of the same process. The objective is increased speed or computing power, the same as in parallel processing and in the use of special units called coprocessors*". Therefore, it would have been obvious to one skilled in the art to employ plurality of texture processors [i.e. multiple circuitry of 13 in Fin 1 or Lentz] into the teaching of Lentz, thereby reducing texture-processing time effectively. (See suggestions in col 7 line 25-34 of Lentz)

Further, The combination of Lentz and Young et al do not explicitly disclose that a texture packets identifying the location of a texture map. However, Tanaka et al clearly discloses that the packet data, which represents the storage location of a texture data/map. (See col 2 line 55-62, col 8 line 26-34) It would have been obvious to one

skilled in the art to incorporate the teaching of Tanaka et al into the teaching of Lentz and Young et al, in order to retrieve proper texels from texture memory with maximized texel data retrieval speed (Also See col 18 line 6-11 in Tanaka et al), as such improvement is also advantageously desirable in the teaching of Lentz and Young et al for accessing the texture data properly and rapidly with optimized memory organization. (See col 2 line 43-56 in Lentz)

Regarding claim 22, Lentz discloses that texture packet includes data relating to the location of its associated texture map in the single texture buffer. (See Fig 7)

24. (Original)

Lentz teaches wherein the texture processor further includes:

an input for receiving a texture message indicating that a texture map is to be utilized by the texture processor, the fetching engine retrieving selected texture packets from the texture buffer in response to receipt of the texture message. (See Fig 1)

Claim 25. (Original)

Lentz teaches wherein the texture processor further includes: a pat'sing engine that parses a fetched texture packet and determines information relating to the texture map associated with the fetched texture packet. (See Fig 1; Also See col 2 line 55-62, col 8 line 26-34 in Tanaka et al)

18. Claims 9-13, 15-19 and 35-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lentz (U.S. Pat. No. 5,886,705) in view of Tanaka et al (U.S. Pat. No. 5,793,371), and further in view of Saunders et al (U.S. Pat. No. 6,046,747).

Regarding claim 9, Lentz discloses that the claimed feature of a method of applying texture to a graphical image employing a graphics accelerator with a plurality of texture processors, the method comprising: locating a texture packet ["texel" or "texture address data"] identifying the location of a texture map in a single memory device [21], wherein the texture packet is associated with the texture map that is different than texture maps associated with other texture packets; parsing [12,13] the texture packet to determine the location and the number of dimensions of the texture map; retrieving, based upon the determined location, the texture map from the single memory device [21]; applying the texture map to the graphical image. (See Fig 1, Fig 2, Fig 7, col 1 line 66-col 2 line 4, col 2 line 43-60, col 3 line 10-14, col 3 line 22-36, col 4 line 14-17, col 4 line 42-54, col 5 line 7-11, col 5 line 22-23, col 8 line 46+)

Lentz does not explicitly disclose that a texture packets identifying the location of a texture map. However, Tanaka et al clearly discloses that the packet data, which represents the storage location of a texture data/map. (See col 2 line 55-62, col 8 line 26-34) It would have been obvious to one skilled in the art to incorporate the teaching of Tanaka et al into the teaching of Lentz, in order to retrieve proper texels from texture memory with maximized texel data retrieval speed (Also See col 18 line 6-11 in Tanaka et al), as such improvement is also advantageously desirable in the teaching of Lentz

and Young et al for accessing the texture data properly and rapidly with optimized memory organization. (See col 2 line 43-56 in Lentz)

Finally, the combination of Lentz and Tanaka et al do not specifically disclose that texture packet has data relating to the dimensional type of its texture map. However, in an analogous art (texture mapping), Saunders et al discloses that "the special bind texture call includes a target parameter that defines the dimension of the texture map and an ID number that identifies the display list texture object." (See col 6 line 56-67) It would have been obvious to one skilled in the art to incorporate the teaching of Saunders et al into the teaching of Lentz and Tanaka et al, in order to provide efficient way to perform texture mapping process based on dimension type of texture data, as multi-dimensional texture map are used in current computer graphic systems, (also see the suggestions in col 1 line 51 of Lentz "not necessarily two dimensional") it is necessarily required for indicating dimensional type in texture data, because the ordinary skilled in the art would know that different mathematical equations are required for different dimensional type of texture maps, and the three-dimensional texture mapping process will require large capacity processor and much more time to process comparing to one-dimensional texture mapping process, since 3-D texture mapping have more variable to calculate. Therefore, having the texture data, which indicates its dimensional type, is also advantageously desirable in the combination of Lentz, Young et al and Tanaka et al for operating texture mapping process rapidly with no complicated manner.

Regarding claim 10, Lentz discloses that the texture packet is located by accessing a record identifying the location of the texture packet. (See Abstract, Fig 1, Fig 7, col 2 line 48-60, col 4 line 14-17, col 4 line 42-54, col 5 line 7-11, col 8 line 15-31)

Regarding claim 11, Lentz discloses that the single memory device is texture memory. (See Fig 1)

Regarding claim 12, Lentz discloses that the texture packet is stored in the single memory device. (See Fig 1)

Regarding claim 13, Lentz discloses that reconstructing the texture map after it is retrieved from the single memory device. (See Fig 1, Fig 7)

Regarding claims 15-19, claims 15-19 are similar in scope to the claims 9-13, and thus the rejections to claims 9-13 hereinabove are also applicable to claims 15-19.

Regarding claim 35, Lentz discloses that the claimed feature of a data structure for storing data relating to a texture map ["texel"], the texture map having an associated dimension and being stored at a given location ["address"] in a single memory device, the apparatus comprising: a location field [i.e. "address"] identifying the given location in the memory device; a dimension field identifying the dimension of the texture map (See Fig 1, Fig 7)

Lentz does not explicitly disclose that a texture packets identifying the location of a texture map. However, Tanaka et al clearly discloses that the packet data, which represents the storage location of a texture data/map. (See col 2 line 55-62, col 8 line 26-34) It would have been obvious to one skilled in the art to incorporate the teaching of Tanaka et al into the teaching of Lentz (Also See col 18 line 6-11 in Tanaka et al), in

order to retrieve proper texels from texture memory with maximized texel data retrieval speed, as such improvement is also advantageously desirable in the teaching of Lentz for accessing the texture data properly and rapidly with optimized memory organization. (See col 2 line 43-56 in Lentz)

Also, The combination of Lentz and Tanaka et al do not specifically disclose that texture packet has data relating to the dimensional type of its texture map. However, in an analogous art (texture mapping), Saunders et al discloses that "the special bind texture call includes a target parameter that defines the dimension of the texture map and an ID number that identifies the display list texture object." (See col 6 line 56-67) It would have been obvious to one skilled in the art to incorporate the teaching of Saunders et al into the teaching of Lentz and Tanaka et al, in order to provide efficient way to perform texture mapping process based on dimension type of texture data, as multi-dimensional texture map are used in current computer graphic systems, (also see the suggestions in col 1 line 51 of Lentz "not necessarily two dimensional") it is necessarily required for indicating dimensional type in texture data, because the ordinary skilled in the art would know that different mathematical equations are required for different dimensional type of texture maps, and the three-dimensional texture mapping process will require large capacity processor and much more time to process comparing to one-dimensional texture mapping process, since 3-D texture mapping have more variable to calculate. Therefore, having the texture data, which indicates its dimensional type, is also advantageously desirable in the combination of Lentz, Tanaka

et al and Saunders et al for operating texture mapping process rapidly with no complicated manner.

Regarding claim 36, Lentz discloses that the texture map comprises a set of mipmaps, further wherein the location field includes a plurality of subfields, each subfield identifying the location of one mipmap in the set of mipmaps. (See Fig 1, Fig 2, Fig 7, col 1 line 66-col 2 line 4, col 2 line 43-60, col 3 line 10-14, col 3 line 22-36, col 4 line 14-17, col 4 line 42-54, col 5 line 7-11, col 5 line 22-23, col 8 line 46+)

Regarding claim 37, Lentz discloses that the texture map spans a plurality of addresses in the memory device, the location field identifying the plurality of addresses. (See Fig 1, Fig 7)

Regarding claim 38, Lentz discloses that the data structure is stored in the memory device, the memory device being texture memory. (See Fig 1)

19. Claims 26-28 and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lentz (U.S. Pat. No. 5,886,705) and Tanaka et al (U.S. Pat. No. 5,793,371) in view of Saunders et al (U.S. Pat. No. 6,046,747), and further in view of Chimoto (U.S. Pat. No. 5,550,961).

Regarding claim 26, claim 26 is similar to claim 1 before the 10/04/2006 amendment, Lentz discloses that the claimed feature of a method of storing a texture map in linear texture memory of a graphics accelerator, the method comprising: a) determining the dimension of the texture map [“texel”]; b) converting the texture map to a one dimensional texture map if the dimension of the texture map is determined to be

more than one dimensional, the one dimensional texture map having a first number of consecutive data blocks; c) locating a second number of consecutive memory locations in the texture memory, the first number being equal to the second number; d) storing the one dimensional texture map in the located memory locations in the texture memory. (See Fig 1, Fig 7, col 1 line 66-col 2 line 4, col 2 line 43-60, col 3 line 10-14, col 3 line 22-36, col 4 line 14-17, col 4 line 42-54, col 5 line 7-11, col 5 line 22-23, col 8 line 46+)

Lentz does not explicitly disclose that a texture packets identifying the location of a texture map. However, Tanaka et al clearly discloses that the packet data, which represents the storage location of a texture data/map. (See col 2 line 55-62, col 8 line 26-34) It would have been obvious to one skilled in the art to incorporate the teaching of Tanaka et al into the teaching of Lentz, in order to retrieve proper texels from texture memory with maximized texel data retrieval speed (Also See col 18 line 6-11 in Tanaka et al), as such improvement is also advantageously desirable in the teaching of Lentz for accessing the texture data properly and rapidly with optimized memory organization. (See col 2 line 43-56 in Lentz)

Also, The combination of Lentz and Tanaka et al do not specifically disclose that texture packet has data relating to the dimensional type of its texture map. However, in an analogous art (texture mapping), Saunders et al discloses that "the special bind texture call includes a target parameter that defines the dimension of the texture map and an ID number that identifies the display list texture object." (See col 6 line 56-67) It would have been obvious to one skilled in the art to incorporate the teaching of Saunders et al into the teaching of Lentz and Tanaka et al, in order to provide efficient

way to perform texture mapping process based on dimension type of texture data, as multi-dimensional texture map are used in current computer graphic systems, (also see the suggestions in col 1 line 51 of Lentz "not necessarily two dimensional") it is necessarily required for indicating dimensional type in texture data, because the ordinary skilled in the art would know that different mathematical equations are required for different dimensional type of texture maps, and the three-dimensional texture mapping process will require large capacity processor and much more time to process comparing to one-dimensional texture mapping process, since 3-D texture mapping have more variable to calculate. Therefore, having the texture data, which indicates its dimensional type, is also advantageously desirable in the combination of Lentz, Tanaka et al and Saunders et al for operating texture mapping process rapidly with no complicated manner.

Further, the combination of Lentz, Tanaka et al and Saunders et al do not explicitly disclose that the texture map being reconstructed based upon the determined dimensional type of the texture map. However, Chimoto discloses that reconstructing the two-dimensional texture data as one-dimensional texture data. (See Fig 3, col 2 line 50-55, col 5 line 12-39, col 6 line 67-col 7 line 39, col 7 line 55+) It would have been obvious to one skilled in the art to incorporate the teaching of Chimoto into the teaching of Lentz, Tanaka et al and Saunders et al, in order to operate high-speed texturing without extensive using of texture memory (See col 2 line 16-21, col 5 line 16-25 in Chimoto), as such improvement is also advantageously desirable in the combination of

Lentz, Tanaka et al and Saunders et al for operating texture mapping process rapidly with simple modification of memory organization.

Regarding claim 27, refer to the discussion for the claim 26 hereinabove, Chimoto further discloses that step b) comprising: B1) defining a plurality of data blocks within the texture map (See Fig 3, col 2 line 50-55, col 5 line 12-39, col 6 line 67-col 7 line 39, col 7 line 55+) B2) assigning a sequence number to each of the data blocks, the sequence numbers being consecutive numbers. (See Fig 3, col 2 line 50-55, col 5 line 12-39, col 6 line 67-col 7 line 39, col 7 line 55+)

Regarding claim 28, refer to the discussion for the claim 26 hereinabove, Chimoto discloses that step d) comprising: D1) consecutively storing each consecutive data block of the one dimensional texture map in the located memory locations. (See Fig 3, col 2 line 50-55, col 5 line 12-39, col 6 line 67-col 7 line 39, col 7 line 55+)

Regarding claims 32-34, claims 32-34 are similar in scope to the claims 26-28, and thus the rejections to claims 26-28 hereinabove are also applicable to claims 32-34.

20. Claims 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lentz (U.S. Pat. No. 5,886,705), Tanaka et al (U.S. Pat. No. 5,793,371) and Saunders et al (U.S. Pat. No. 6,046,747) in view of Chimoto (U.S. Pat. No. 5,550,961), and further in view of Young et al (U.S. Pat. No. 5,831,637).

Regarding claim 29, claim 29 is similar in scope to the claim 26, and thus the rejection to claim 26 hereinabove is also applicable to claim 29. In addition, Lentz does

not specifically disclose a plurality of texture processors. However, such limitations are shown in the teaching of Young et al. [i.e. 'employing multiple texture processors (251-254) and doing texture mapping with multiple texture processor (251-254), which connected with texture memory (251a-254a)] (See Fig 1, Fig 2 of Young et al) The motivation would have been to minimize the time required for texture processing. Further, as to the computer dictionary ["Microsoft Press Computer Dictionary", Third Edition], "Multiprocessing/Multiprocessor" is defined as "*mode of operation in which two or more connected and roughly equal processing units each carry out one or more processes. In multiprocessing, each processing unit works on a different set of instructions or on different parts of the same process. The objective is increased speed or computing power, the same as in parallel processing and in the use of special units called coprocessors*". Therefore, it would have been obvious to one skilled in the art to employ plurality of texture processors [i.e. multiple circuitry of 13 in Fin 1 or Lentz] into the combination of Lentz, Tanaka et al, Saunders et al and Chimoto, thereby reducing texture-processing time effectively. (See suggestions in col 7 line 25-34 of Lentz)

Regarding claims 30-31, claims 30-31 are similar in scope to the claims 27-28, and thus the rejections to claims 27-28 hereinabove are also applicable to claims 30-31.

Allowable Subject Matter

21. Claims 1 and 4-8 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

22. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fails to teach or suggest in the context of claim 1:

wherein the graphics accelerator is configured to convert the associated texture map to a one dimensional texture map by defining a plurality of data blocks within the texture map and then assigning a sequence number to each of the data blocks; and wherein the consecutive data blocks (defined by the sequence number) of the texture map are stored consecutively in memory locations. Refer to the summary of independent claim 1 spanning pages 7 and 8 and the argument Ie spanning pages 20 and 21 of applicants 10/05/2007 Appeal Brief. Also refer to the summary of independent claim 1 spanning pages 10 and 11 and the argument Ie spanning pages 26 and 27 of applicants 02/07/2008 Appeal Brief.

23. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fails to teach or suggest in the context of claims 9, 13 and 14:

The method as defined by claim 13 wherein the texture packet includes data relating to the dimensional type of the texture map, the texture map being reconstructed by parsing the texture packet to determine the dimensional type of the texture map, the texture map being reconstructed based upon the determined dimensional type of the texture map.

24. Note claim 20 is the computer program product version of claim 14 but due to the non-statutory nature of this claim an indication of allowability would be premature.

25. Note that claims 27 + 28 and 30+31 would be similar in scope to the two wherein clauses of claim 1 with the same issue of the association between the "the consecutive data blocks" and the "sequence number" being unclear, however individually such as claims 27 and 28 are obvious in view of the prior art since synergism does not manifest from these claims individually but does collectively.

26. Note a claim 33+34 is the computer program product version of a claim 30+31 but due to the non-statutory nature of this claim an indication of allowability would be premature.

Conclusion

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffery A. Brier whose telephone number is (571) 272-7656. The examiner can normally be reached on M-F from 7:30 to 4:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi, can be reached at (571) 272-7664. The fax phone Number for the organization where this application or proceeding is assigned is 571-273-8300.

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